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26161 7590 04/15/2008 FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER RODRIGUEZ, RUTH C	
			ART UNIT 3677	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/688,031	<b>Applicant(s)</b> CLARNER, MARK A.	
	<b>Examiner</b> RUTH C. RODRIGUEZ	<b>Art Unit</b> 3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-16,21-26,29-31,35-38,40-42,46-50,52,56 and 57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-16,21-26,29-31,35-38,40-42,46-50,52,56 and 57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 8-16, 23-25, 30, 31, 46-48, 52, 56 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seth et al. (US 7,048,984 B2).

Seth discloses a touch fastener component (14) having a sheet-form base (20) and an array of fastener elements (21). Each fastener element comprises a molded stem (15) extending outwardly from and integrally with the sheet-form base and a head (17) extending forward from a distal end of the stem to a tip. The head has a lower surface forming a crook (19) for retaining loops. The head has an overall height, measured perpendicular to the sheet-form base from a lowermost extend of the tip to an uppermost extend of the head (292µm) that is greater than 52 percent of an overall height of the fastener (556µm). Seth fails to disclose that the head has an overall height, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head that is greater than 55 percent of an overall height of the fastener element, measured perpendicular to the sheet-form base and wherein a ratio of an overall height of the crook measured perpendicular to the sheet-

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form base from a lowermost extent of the tip to an uppermost extent of the crook to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip is greater than 0.6. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the head having an overall height measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head that is greater than 55 percent of an overall height of the fastener element measured perpendicular to the sheet-form base and wherein a ratio of an overall height of the crook measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip is greater than 0.6 since a change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955). In this case, the overall height measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head can be increased so that the ratio of the overall height of the head to the overall height of the fastener element can be greater than 55 percent since the overall height of the head disclosed by Seth has a value that almost meets this claim limitation and a person of ordinary skill in the art will acknowledge that only a small increase is required to meet the claim limitation. Regarding to a ratio of an overall height of the crook measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip is greater than 0.6, this claim limitation is met

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as the height of the head is increased since the entrance height decreases as the height of the head increases and the overall height of the crook also increases as the height of the head is increased because the height of the head is increased by lowering the lowermost extent of the tip.

Each fastener element has multiple heads extending in different directions and forming separate crooks (Fig. 6a).

Each fastener element has two heads extending in essentially opposite directions (Fig. 6a).

The overall head height is less than 60 percent of the overall height of the fastener element (Example 3 of Table 1).

The tip extends toward the base (Fig. 6a).

The lower surface of the head is arched (Fig. 6a).

The head and stem form a unitary molded structure (Figs. 6a and 6b).

The head has a surface of resin cooled against a mold surface (C. 3, L. 56-57).

The stem has opposing surfaces defined by severed resin (Fig. 6a).

The stem and head have side surfaces lying in parallel planes (Figs. 6a and 6b).

The crook overhangs a surface of the stem (Figs. 6a and 6b).

The overhung stem surface extends at an inclination angle of between about 20 and 30 degrees with respect to a normal to the base (Fig. 6a).

The fastener elements together cover at least 20 percent of an overall surface area of the base from which the fastener elements extend (Fig. 5).

Seth discloses a touch fastener component (14) having a sheet-form base (20) and an array of fastener elements (21). Each fastener element comprises a molded stem (15) extending outwardly from and integrally with the sheet-form base and two heads (18) extending in opposite direction from a distal end of the stem to corresponding tips. The heads have lower surfaces forming crooks (19) for retaining loops. At least one head has an overall height, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head ( $292\mu\text{m}$ ) that is greater than half of an overall height of the fastener ( $556\mu\text{m}$ ). Seth fails to disclose that a ratio of an overall height of each crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, is greater than 0.6. However, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention that a ratio of an overall height of each crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, can be greater than 0.6 since the increased height of the head causes a decrease of the entrance height and an increase of the overall height of the crook since the height of the head is increased by lowering the lowermost extent of the tip.

Both of the heads have overall heights that are greater than half of the overall height of the fastener element (Example 3 of Table 1).

Seth discloses a touch fastener component (14) having a sheet-form base (20) and an array of fastener elements (21). Each fastener element comprises a molded stem (15) extending outwardly from and integrally with the sheet-form base and a head (18) extending from a distal end of the stem to a tip. The head has a lower surface forming a crook (19) for retaining loops. Seth fails to disclose that a ratio of an overall height of each crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, is greater than 0.6. However, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention that a ratio of an overall height of each crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, can be greater than 0.6 since the increased height of the head causes a decrease of the entrance height and an increase of the overall height of the crook since the height of the head is increased by lowering the lowermost extent of the tip.

The crook defines an under crook angle of at least 180 degrees (Fig. 6a).

The head has an overall thickness (267  $\mu\text{m}$ ), measured parallel to the base and perpendicular to a plane of the crook, that is greater than the entrance height (556  $\mu\text{m}$  - 292  $\mu\text{m}$ =264  $\mu\text{m}$ ) of the crook.

3. Claims 4, 5, 26, 27, 35-38, 40, 41, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seth in view of Akeno et al. (US 5,871,969).

Seth discloses a touch fastener component having all the features mentioned above. Each fastener element defines an upper well between the two oppositely-directed heads, the well extending down to a height, measured perpendicularly from the base, of at least about 30 percent of the overall height of one of the two oppositely-directed heads (Fig. 6a). Seth fails to disclose that each fastener element defines an upper well between the two oppositely-directed heads, the well extending down to a height, measured perpendicularly from the base, of at least about 70 percent of the overall height of one of the two oppositely-directed heads. However, Akeno teaches a touch fastener component (1,2) having a sheet-form base (1) and an array of fastener elements (2). Each fastener element comprises a molded stem (21) extending outwardly from and integrally with the sheet-form base and a head (23) extending from a distal end of the stem to a tip. Each fastener element defines an upper well between the two oppositely-directed heads, the well extending down to a height, measured perpendicularly from the base, of at least about 70 percent of the overall height of one of the two oppositely-directed heads (Fig. 4B). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have each fastener element defines an upper well between the two oppositely-directed heads, the well extending down to a height, measured perpendicularly from the base, of at least about 70 percent of the overall height of one of the two oppositely-directed heads as taught by Akeno in the fastener component of Seth. Doing so, reduces the amount of material provided between the heads to improve the flexibility to the heads.



Seth also disclose that each fastener element has an overall length between opposite extents of the oppositely-directed heads, measured parallel to the base, of at least 0.94 times the overall height of the fastener element. Seth fails to disclose that each fastener element has an overall length between opposite extents of the oppositely-directed heads, measured parallel to the base, of at least 1.8 times the overall height of the fastener element. However, Akeno teaches that each fastener element has an overall length between opposite extents of the oppositely-directed heads, measured parallel to the base, of at least 1.8 times the overall height of the fastener element (Fig. 4B). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to provide each fastener element has an overall length between opposite extents of the oppositely-directed heads, measured parallel to the base, of at least 1.8 times the overall height of the fastener element as taught by Akeno in the fastening component of Seth since Akeno teaches that the use of a fastener element that has a length equal to almost double the height of the fastener is well known in the art to provide a fastener element with adequate strength, peeling resistance, high rate of engagement and good durability.

Seth discloses a touch fastener component (14) having a sheet-form base (20) and an array of fastener elements (21). Each fastener element comprises a molded stem (15) extending outwardly from and integrally with the sheet-form base and a head (17) extending forward from a distal end of the stem to a tip. The head has a lower surface forming a crook (19) for retaining loops. The fastener element has a bulk aspect, defined as a ratio of the product of an overall length of the fastener element,

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measured parallel to the sheet-form base in the engagement direction above an elevation of the tip, and fastener element thickness, measured parallel to the sheet-form base and the engagement direction at the elevation of the tip, to an overall height of the fastener element, measured perpendicular to the sheet-form base (Fig. 6a). Seth fails to disclose that the bulk aspect is more than 0.020 inch (0.51 mm) since the overall length the fastener element is smaller than the height of the fastener element . However, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to provide each fastener element has an overall length between opposite extents of the oppositely-directed heads, measured parallel to the base, of at about twice the overall height of the fastener element as taught by Akeno in the fastening component of Seth such that the bulk aspect is more than 0.020 inch (0.51 mm) since Akeno teaches that the use of a fastener element that has a length equal to almost double the height of the fastener is well known in the art to provide a fastener element with adequate strength, peeling resistance, high rate of engagement and good durability.

The product of overall length and fastener element thickness, multiplied by a number of fastener elements disposed in an array on the base, is greater than about 20 percent of an area of the base populated by the array (Fig. 5).

The crook overhangs a surface of the stem, and wherein the overhung stem surface extends at an inclination angle of between about 20 and 30 degrees with respect to a normal to the base (Fig. 6a).

4. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seth in view of Kennedy et al. (US 6,248,419 B1).

Seth discloses a touch fastener having all the limitations listed above for the rejection of claim 1. Seth fails to disclose that the touch fastener component further comprises a backing material laminated to a side of the base opposite the fastener elements. However, Kennedy teaches a touch fastener component having a sheet-form base (20) and an array of fastener elements (21). Each fastener element comprises a molded stem extending outwardly from and integrally with the sheet-form base and a head extending from a distal end of the stem to a tip (Figs. 5-9A). The head has a lower surface forming a crook for retaining loops (Figs. 5-9A). A backing material (22,23,24, 25,26,27,28,29,30) laminated to a side of the base opposite the fastener elements . Kennedy teaches a process to add different laminates to a backing material in an economical way while providing a strong bond without providing foreign material (C. 3, L. 47-61). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a touch fastener component further comprising a backing material laminated to a side of the base opposite the fastener elements as taught by Kennedy in the touch fastener component of Seth. Doing so, is possible by a process that adds different laminates to a backing material in an economical way while providing a strong bond without the use of foreign materials.

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seth in view of Ausen et al. (US 2004/0068848 A1).

Seth discloses a touch fastener having all the features mentioned above for the rejection of claim 1. Seth is silent about the density of the fastener elements. Seth fails to disclose that the fastener elements are arranged in a density of at least 350 fastener elements per square inch of the base. However, Ausen et al. teaches a touch fastener component (11",14") having a sheet-form base (11") and an array of fastener elements (14"). Each fastener element comprises a molded stem (15") extending outwardly from and integrally with the sheet-form base and a head (36" or 37") extending forward from a distal end of the stem to a tip. The head has a lower surface forming a crook (19") for retaining loops. The head has an overall height (341µm), measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head, that is greater than 55 percent of an overall height (606 µm) of the fastener element, measured perpendicular to the sheet-form base. The fastener elements are arranged in a density of at least 350 fastener elements per square inch of the base (End of paragraph 0036). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the fastener elements arranged in a density of at least 350 fastener elements per square inch of the base as taught by Ausen in the touch fastener disclose by Seth. Especially since Ausen teaches that providing a density of more than 350 fastener elements per square is well known the hook and loop fastener art.

6. Claims 1-3, 8-16, 22-25, 30, 31, 46-48, 52 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ausen et al. (US 2004/0068848 A1).

Ausen discloses a touch fastener component (11",14") has a sheet-form base (11") and an array of fastener elements (14"). Each fastener element comprises a molded stem (15") extending outwardly from and integrally with the sheet-form base and a head (36" or 37") extending forward from a distal end of the stem to a tip. The head has a lower surface forming a crook (19") for retaining loops. The head has an overall height (341 $\mu$ m), measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head, that is greater than 55 percent of an overall height (606  $\mu$ m) of the fastener element, measured perpendicular to the sheet-form base. Ausen fails to disclose that the ratio of an overall height of the crook, measured perpendicular to the sheet- form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, is greater than 0.6. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a ratio of an overall height of the crook measured perpendicular to the sheet- form base from a lowermost extent of the tip to an uppermost extent of the crook to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip is greater than 0.6 since the increased height of the head results in a decreased entrance height and an increased overall height of the crook since the height of the head is increased by lowering the lowermost extent of the tip.

Each fastener element has multiple heads extending in different directions and forming separate crooks (Fig. 7a).

Each fastener element has two heads extending in essentially opposite directions (Fig. 7a).

The overall head height is less than 60 percent of the overall height of the fastener element (3<sup>rd</sup> line of Table 1).

The tip extends toward the base (Fig. 7a).

The lower surface of the head is arched (Fig. 7a).

The head and stem form a unitary molded structure (Fig. 7a).

The head has a surface of resin cooled against a mold surface (Fig. 7a).

The stem has opposing surfaces defined by severed resin (Fig. 7a).

The stem and head have side surfaces lying in parallel planes (Figs. 7a and 7b) .

The crook overhangs a surface of the stem (Fig. 7a).

The overhung stem surface extends at an inclination angle of between about 20 and 30 degrees with respect to a normal to the base (Fig. 7a).

The fastener elements are arranged in a density of at least 350 fastener elements per square inch of the base (end of paragraph 0036).

The fastener elements together cover at least 20 percent of an overall surface area of the base from which the fastener elements extend (Fig. 10).

Ausen discloses a touch fastener component (11",14") has a sheet-form base (11") and an array of fastener elements (14"). Each fastener element comprises a molded stem (15") extending outwardly from and integrally with the sheet-form base and two head (36"37) extending in opposite directions from a distal end of the stem to corresponding tips. The heads have lower surfaces forming crooks (19") for retaining

loops. At least one head has an overall height ( $341\mu\text{m}$ ), measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the head, that is greater than half of an overall height ( $606\mu\text{m}$ ) of the fastener element, measured perpendicular to the sheet-form base. Ausen fails to disclose that the ratio of an overall height of the crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, is greater than 0.6. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a ratio of an overall height of the crook measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip is greater than 0.6 since the increased height of the head results in a decreased entrance height and an increased overall height of the crook since the height of the head is increased by lowering the lowermost extent of the tip.

Both of the heads have overall heights that are greater than half of the overall height of the fastener element (Line 3 of Table 1).

The overall head height is less than 60 percent of the overall height of the fastener element (Line 3 of Table 1).

The crooks overhang surfaces of the stem, and wherein the overhung stem surfaces extend at an inclination angle of between about 20 and 30 degrees with respect to a normal to the base (Fig. 7a).

Ausen discloses a touch fastener component (11",14") has a sheet-form base (11") and an array of fastener elements (14"). Each fastener element comprises a molded stem (15") extending outwardly from and integrally with the sheet-form base and a head (36" or 37") extending forward from a distal end of the stem to a tip. The head has a lower surface forming a crook (19") for retaining loops. Ausen fails to disclose that the ratio of an overall height of the crook, measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook, to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip, is greater than 0.6. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a ratio of an overall height of the crook measured perpendicular to the sheet-form base from a lowermost extent of the tip to an uppermost extent of the crook to an entrance height measured perpendicular to the sheet-form base below a lowermost extent of the tip is greater than 0.6 since the increased height of the head results in a decreased entrance height and an increased overall height of the crook since the height of the head is increased by lowering the lowermost extent of the tip.

The crook defines an under crook angle of at least 180 degrees (Fig. 7a).



### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-5, 8-16, 21-26, 29-31, 35-38, 40-42, 46-50, 52, 56 and 57 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth C Rodriguez whose telephone number is (571) 272-7070. The examiner can normally be reached on M-F 07:15 - 15:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Victor Batson can be reached on (571) 272-6987.

Submissions of your responses by facsimile transmission are encouraged. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-6640.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/RCR/  
Ruth C. Rodriguez  
Patent Examiner  
Art Unit 3677

rcr  
April 15, 2008

/Robert J. Sandy/  
Acting SPE of Art Unit 3677